

GEOLOGY OF THE AKDAĞ MASSIF AND SURROUNDINGS

Ali YILMAZ*; Şükrü UYSAL*; Yavuz BEDI*; Halil YUSUFOĞLU*; Talat HAVZOĞLU*; Ahmet AĞAN*; Deniz GÖÇ* and Nihal AYDIN*

ABSTRACT.- The study area is located in the eastern part of Akdağ massive and its surrounding area. The purpose of this paper is to contribute in understanding of the regional geology. In the study area, Akdağmadeni Lithoderm represents basement rocks consisting mainly of gneiss, amphibolite, schist, marble and quartzite. The metamorphic assemblage underwent metamorphism in the higher temperature part of amphibolite facies and was intruded by granitoids and gabbro. The contact between metamorphics and Paleocene volcanics is tectonic. The units showing different sedimentary environments were deposited during Eocene. For example, in the northern part of the area, Eocene units were represented by hemipelagic elastics which overlie Paleocene volcanics conformably and olistostromal rocks composed of Upper Cretaceous mega olistolithes. Within some of the olistolithes there is a sharp facies change between Campanian pelagic limestone and Maastrichtian turbidites. Maastrichtian turbidites pass to the Maastrichtian-Paleocene (?) volcanics conformably. Ophiolitic melange overlies the olistostrome by a northward-dipping overthrust and, passing to the Campanian hemipelagic limestone in the upper levels, in the southern part of the area, the Eocene units are represented by shallow marine deposits and overlie the metamorphic rocks unconformably. This sequence is followed by Oligocene and Lower-Middle Miocene continental deposits respectively. The Upper Miocene-Pliocene fluvial and lacustrine deposits overlie the rest of the older units unconformably. In the neotectonic period, in the study area, the faults showing left lateral-reverse oblique slip in NE-SW trending, right lateral oblique slip in NNW-SSE trending and dip-slip faults in N-S trending, were developed under the control of N-S compression.